COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

This manual implements regulatory guidance contained in AFPD 36-26, *Total Force Development*; AFI 36-2201 AFMC Sup, *Air Force Training Program*; AFI 36-401 AFMC Sup, *Employee Training and Development*; AFMAN 36-2234, *Instructional System Development*, and AFI 36-2650 AFMC Sup, *Maintenance Training*. It establishes instructions and process flows to be followed to ensure the continued competence of Air Force Materiel Command (AFMC) Command Standard Depot Maintenance Systems Training. It is designed to help maintain the quality and currency of systems training, job aids, and associated courseware. The intention of this manual is to provide a structure for Command standard system revisions that incorporates flexible training responses. This manual applies to all organizations within AFMC that develop and conduct Depot Maintenance Systems Training. This manual does not apply to the Air National Guard (ANG), Air Force Reserve Command (AFRC), and their units. Refer recommended changes and questions about the manual to the Office of Primary Responsibility (OPR) using AF Form 847, *Recommendation for Change of Publication;* route AF Forms 847 from the field through the appropriate functional's chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records,* and disposed of in accordance with (IAW) Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). See Attachment 1 for a glossary of references and supporting information. This publication may not be supplemented or further implemented/extended. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-2, T-3") number following the compliance statement. See AFI 33-360, Publications

and Forms Management, for a description of the authorities associated with the Tier numbers. Submit request for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items.

SUMMARY OF CHANGES

This manual has been revised and should be completely reviewed. The following is a synopsis of the incorporated changes: Updates have been made throughout the document to reflect the five center construct. Flow charts have been updated.

Chapter 1

INTRODUCTION

1.1. Purpose. This manual was developed to build upon the strategy developed by the Depot Maintenance (DM) Systems Training Working Group, which included Systems Functional Advocates (FAs), Information Technology (IT), systems Program Office and training personnel from Air Logistics Complexes (ALCs), Aerospace Maintenance and Regeneration Group (AMARG), and HQ AFMC/A4P.

1.2. Application. Command Standard DM information systems training is a subset of the DM Training Management activity within the HQ AFMC Product Support Management Division (A4F) and Maintenance Division (A4M). The processes and procedures detailed in this manual apply to all AFMC depot maintenance organizations, HQ AFMC maintenance elements, maintenance systems program offices, and contractors supporting system courseware development.

1.3. Scope. This manual covers the following processes:

1.3.1. Requirements Awareness Process

1.3.2. Major System Change Process

1.3.3. Minor System Change Process

1.3.4. Training Response to Major System Change

1.3.5. Training Response to Minor System Change

1.4. How to Use This Manual. The process flow charts and sections that follow provide a structure for the various phases, functions, and activities associated with the revision of a "typical" Command standard information system, and the associated "training response." This is not always a rigid or linear process. Individual training projects should include only those activities needed to ensure effective and economical training responses to system changes. When referencing the manual, users may choose to go directly to the phase and activity that applies, but it is recommended that users also view the entire series of processes as illustrated in the flow charts (**Attachments 2**-**4**).

1.5. Major Assumptions. The DM Systems Strategy assumes the following:

1.5.1. The processes set forth in this manual apply to the existing Command Standard DM Systems (**Attachment 5**).

1.5.2. Systems and training personnel use the Information System Management Tool (ISMT) to track requirements for all Command Standard DM Systems.

1.5.3. The ISMT "Training Impact" block, indicating the training need for a particular change action, is correctly completed for all systems changes.

1.6. References to Terms and Additional Guidance. Information contained in other sources is applied, but not normally repeated in this manual. A listing of these sources, acronyms, and abbreviations can be found in **Attachment 1**, "Glossary of References and Supporting Information."

1.7. Process Stakeholders. The following is a non-exhaustive list of process stakeholders relative to training:

1.7.1. Instructor or Trainer

1.7.2. Subject Matter Expert (SME)

1.7.3. Courseware Developer

1.7.4. Instructional System Development (ISD) Evaluation Board

1.7.5. System OPR

1.7.6. Training Manager

1.8. Lead Complex for Assigned Systems Training (throughout the rest of this manual we will use Lead Complex interchangeably.) HQ AFMC has assigned a "Lead Complex for AFMC Training" for each Command Standard DM System. The Lead Complex is responsible for the quality and currency of training and associated courseware for assigned systems. Command Standard DM Systems, including Lead Complex designation, are listed in **Attachment 6**. Lead Complex responsibilities relative to Command Standard DM Systems training are the same as those pertaining to other types of maintenance training. These include, but are not limited to:

1.8.1. Ensuring that other Complexes are involved in decisions related to the assigned training to include development, review, and revalidation of Command systems courseware.

1.8.2. Review of assigned systems training and associated courseware at least triennially.

1.8.3. Providing necessary train-the-trainer assistance to other Complexes.

1.8.4. Appointing SMEs to provide technical guidance to Complexes, HQ AFMC, and other organizations on issues related to the subject area of assigned systems training.

1.8.5. Serving as liaison between Complexes, HQ AFMC and other organizations on issues related to assigned systems training.

1.8.6. Provide necessary funding for sustainment courseware development for DM systems.

1.9. Maintenance Training Flight. Has overall responsibility for the development, coordination, distribution, and maintenance of assigned Command systems courseware. Systems training courseware shall be developed using the ISD methodology.

1.10. Coordinating Training Complex. Coordinating Training Complexes are system users not designated as Lead Complex for a given system. Coordinating Training Complexes share responsibility with the Lead Complex for ensuring the quality and currency of system training and associated courseware. Coordinating Training Complexes:

1.10.1. Appoint SMEs to provide technical guidance to the Lead Complex.

1.10.2. Provide timely coordination of courseware.

1.10.3. Submit written input to the Lead Complex on exceptions taken to the technical accuracy or design of courseware assigned to be reviewed. This shall include a recommended action to be taken for each exception.

1.10.4. Assign qualified instructor representatives to attend train-the-trainer sessions.

1.10.5. It is expected that Lead Complexes will manage and resolve any technical or design process disputes as they may arise. However, in the event this is unsuccessful, disputes between Coordinating Training Complexes over courseware technical issues may be resolved by the appropriate HQ AFMC technical element (e.g. Systems Integrator/Functional Advocate). Courseware design disputes may be resolved by HQ AFMC/A4PT.

1.11. HQ AFMC Logistics Training Specialist. HQ AFMC/A4PT is the focal point for all DM Command Standard System training requirements. Additional responsibilities include the following:

1.11.1. Continuous monitoring and follow-up of courses in development.

1.11.2. Tracking software changes in ISMT.

1.11.3. Tracking courseware development.

1.11.4. Maintaining a traceability matrix between courseware to applicable Civilian Training Plans (CTPs).

1.11.5. Assist in determining course priority for development and funding.

1.11.6. Final determination and prioritization of training requirements for each Command Standard DM System shall be accomplished by HQ AFMC/A4PT in collaboration with the Lead Complexes, Complex Maintenance Training Organizations, and HQ AFMC Functional Advocates (FAs).

1.12. HQ AFMC Functional Advocate. HQ AFMC functional point of contact for assigned DM Command Standard Systems. FAs work with site functional OPRs to provide a single functional voice to program offices for training requirements. FAs chair System Functional Review Boards (FRBs), which approves functional requirements for their assigned systems.

1.13. System Program Office. Staffed by program managers, software developers, engineers, and database technicians, this office is responsible for the overall management and sustainment of hardware architecture, system application software, interfaces, and databases. Some development activities are organic and some contractor.

1.14. Instructional Systems Development (ISD). Use of ISD is *mandatory* for the development of formal, functional training provided to AFMC audiences.

1.15. Localizing Command Standard Courseware. Courseware developers may tailor a Command standard system course to make the instruction more relevant to the local target audience providing:

1.15.1. Course learning objective behaviors, conditions of performance, and standards of performance are not lessened in any way. They may, however, be increased.

1.15.2. Instructional and evaluation materials, including presentations, class exercises and student handouts, may be altered as long as all learning objectives and proficiency levels of the standard course are attained by the student at the completion of training.

1.15.3. The Complex assumes responsibility to sustain localized material.

1.16. Command Standard DM Systems Training Categories. Three training categories were defined by the DM Systems Training Working Group in regards to the DM Systems;

Navigational Training, Functional Training, and Advanced Functional Training. Definitions and examples of the three categories are as follows:

1.16.1. Navigational Training. Navigational training is specific introductory training at the Apprentice level or above designed to establish initial proficiency in system operation and perfom limited system functions in support of initial fielding and use. Navigational training can be instructor-led and/or stand-alone Computer Based Training (CBT) courses that may also be utilized as desktop reference guides. This training will be available to all authorized users. Examples include:

1.16.1.1. How to log into the system.

1.16.1.2. How to navigate from screen to screen.

1.16.1.3. Selected data input.

1.16.1.4. Basic system structure.

1.16.1.5. Basic business rule overview.

1.16.2. Functional Training. Functional training is an intermediate course for a system as it applies to performing a particular job or task typically at the Journeyman/Craftsman proficiency level. Functional training can include upgrade training and may be delivered as an instructor-led and/or stand-alone CBT course. Examples include:

1.16.2.1. Appropriate creation of temporary or permanent job orders.

1.16.2.2. Creation and build-up of a Bill of Material.

1.16.2.3. Defining responsibilities of a specific occupational skill.

1.16.2.4. Type of information to put into fields.

1.16.2.5. Interactions between different career fields.

1.16.2.6. Interactions between systems.

1.16.3. Advanced Functional Training. Advanced functional training is a more detailed upgrade type training of how to perform a particular job or task at the supervisor/manager/administrator proficiency level. The performance of this job or task must be standardized across the Command. Navigational and functional proficiency level is a prerequisite. This type of training includes higher level day-to-day operations, and may be delivered as an instructor-led and/or stand-alone CBT course. Examples include:

1.16.3.1. Business case analysis.

1.16.3.2. Practical application of business rules.

1.16.3.3. Multiple systems (concurrent integration and interaction) taught in the same course.

1.17. Information Systems Management Tool (ISMT). Regardless of the type or source of any change suggested, the information is logged in the Requirements Document Tracking Module (RDTM) of the ISMT. The ISMT is a sophisticated on-line database used for the control and management of system change requests, and their subsequent approval and implementation processes. The ISMT contains real-time information regarding the status of any given change, including information critical to both the systems and training communities. Therefore, it is the

responsibility of both communities to monitor the ISMT. In particular, Lead Complexes, working with HQ AFMC/A4PT, HQ AFMC/A4M, HQ AFMC/A4F and HQ AFMC/A4N, should monitor the ISMT to keep apprised of potential systems training impacts.

1.18. Course Development Prioritization and Funding. Effective and timely training response to system changes requires construction and maintenance of a complete curriculum of Command standard systems courses. The systems curriculum ensures effective training of new learners, and enables rapid response to change. The Courseware Management Database (CMD) is the primary tool used to track courseware development. This tool allows the user to see what is being developed, who the OPR is, ensuring a sustainable, complete curriculum is enhanced by a coordinated, corporate approach between Complexes and HQ AFMC:

1.18.1. Lead Complexes review the currency of Command standard courseware for which they are responsible when there is an update to courseware and funding is available.

1.18.2. HQ FAs define the need for future development efforts by analyzing future system requirements needs; including known, and impending modifications (on-going).

1.18.3. HQ AFMC/A4PT convenes a conference with all ALC systems training representatives to define and prioritize needs for updating courseware and executing training based on anticipated system changes. This will include command standard transition training, development of new basic courses, and update of existing command standard basic courseware.

1.18.4. Lead Complex will define recommended courseware development sources.

1.18.5. Lead Complex will develop or update courseware according to priorities determined.

1.19. Permanent Training Environment (PTE). The PTEs are interactive, computer-based, training aids that simulate the systems applications and data contained in the actual production environment. PTEs provide students the most realistic systems training classroom experience possible.

1.19.1. Depot Maintenance System Integration (DMSI) Permanent Training Environment (DPTE). The DPTE simulates the production environments for the various DMSI systems. DPTE sustainment is provided by the DMSI Program Management Office (PMO) at Wright-Patterson, AFB (AFMC AFLCMC/HIAM). A DPTE "refresh" updates the DMSI software applications to reflect the current production environment, and updates the data stored in the database server to the current point in time. The DPTE is "refreshed" by the DMSI PMO copying the production environment data and the production data base to the DPTE database server (Wilbur), and copying the applications to the web servers or client workstations. Refreshes are scheduled to occur annually in October, but out-of-cycle refreshes may be directed by HQ AFMC/A4PT.

1.19.2. Depot Maintenance Accounting and Production System (DMAPS) Permanent Training Environments. The DMAPS PTEs simulate the actual production environments for Automated Bill of Materials (ABOM), NAVAIR Industrial Financial Management System (NIMMS), Defense Industrial Financial Management System (DIFMS), and Time and Attendance System (TAA). The ABOM, NIMMS and DIFMS training environments are kept up-to-date by Technical Support Services Office-Indianapolis (TSOIN), Indianapolis, IN, and Defense Finance and Accounting Service (DFAS) Operations Support Team (OST)

at Hill AFB, UT. The training database for TAA is the responsibility of each site. The TAA developer provides HQ DMAPS PMO an updated database when TAA changes affect training. Each site is responsible for updating their training environment when notified of new releases by their site's TAA OPR. The DMAPS PMO is responsible for providing updated training material. Software revision release updates for all DMAPS systems are coordinated through the DMAPS PMO training point of contact (POC).

1.20. Training Impact Report. The Training Impact Report combines system change status information from the ISMT and recent Configuration Control Directives (CCD). Included are changes to ISMT status information as a result of block release planning meetings held with the suppliers. The report is used primarily by Lead Complexes to keep abreast of changes impacting the system courseware for which they are responsible. It also aids instructors in tracking PTE and production environment configuration differences between refreshes. Lead Complexes are responsible for evaluating the training impact of system changes, and then developing and disseminating any necessary courseware updates.   To evaluate the changes more fully, courseware developers can find the actual BCR/DR in the ISMT. If the information in the Baseline Change Request (BCR) or Deficiency Report (DR) is not adequate for courseware developers to determine what to do, aid should be requested from the applicable local system SME. System changes may also be broadcast by the PMO in the form of system design minutes, software migration descriptions, or other documents to assist the Lead Complexes with identification of software modifications that may impact the training materials.

1.21. Communication and Process Flow. Systems training needs should be included in each applicable CTP. The CTP is the official document used to identify systems training required for each maintenance system, by series and user of the systems.   The following System Training/Sustainment Process is not dependent on either the CTP or on the category of training. The System Training/Sustainment Process is comprised of four phases: Awareness, Assessment, Development/Validation, and Delivery/Sustainment. Several stakeholders must act together to produce the desired training solutions. See **figure 1.1**

Figure 1.1. System Training/Sustainment Process Swim Lanes.

System Training/Sustainment Process Swim Lanes
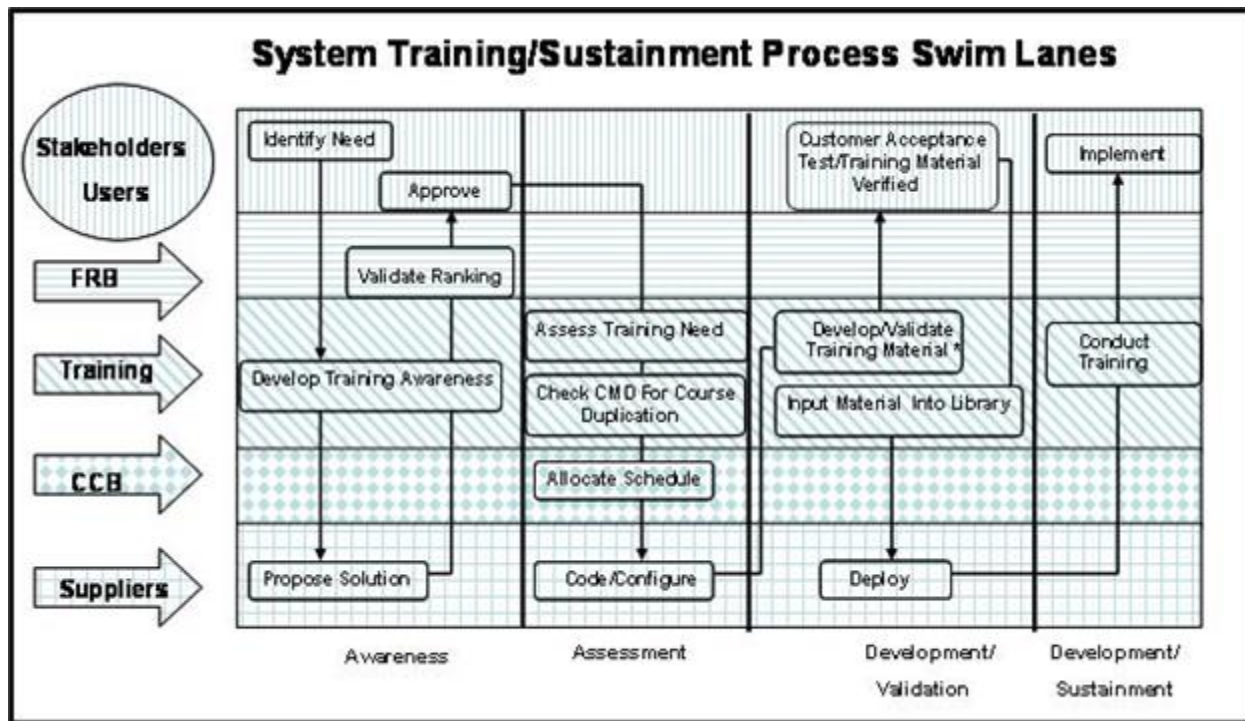
1.21.1. During these four phases, the Systems Change and Training Response processes run concurrently. Through the System Change Process, modification to system software is proposed, evaluated, approved, planned, funded, and implemented. Through the Training Response Process, the system change is first evaluated as to its impact on system functionality or appearance (user impact). Then, based on this evaluation, training (or non-training) solutions are proposed, developed, tested, and implemented. A detailed description of these processes follows. The descriptions are designed to be read while referencing the appropriate Attachments 2-4 flow charts.

Chapter 2

REQUIREMENTS AWARENESS PHASE

2.1. Awareness Phase Overview: Opportunities for systems enhancements always exist. In addition to normal annual updates or new system requests, users may ask for additional functionality, or identify system defects. Regardless of the source of change, the systems training process begins when a new systems requirement is generated. After a system user or authorized systems employee submits a recommended system change, the "Awareness Phase" (See process flow chart in Attachment 2) is employed to:

2.1.1. Determine the extent of the change, including systems impacted.

2.1.2. Determine if the change should be approved or disapproved.

2.1.3. Establish the relative priority of the change.

2.1.4. Schedule the change.

2.1.5. Direct the appropriate systems program offices to plan and execute the change. A critical part of determining the extent of the change is to determine how user competency will be maintained. This consists of planning for any formal training or non-formal training interventions, including the possible need to update existing courseware or develop new courseware. This phase concludes once the Communications and Information Systems Requirements Document (CSRD) and associated BCR or DR are approved.

2.2. System Change Process:

2.2.1. Initiate Request for System Change.

2.2.1.1. Purpose/Action: In this activity, a user or any system specialist identifies a perceived system defect or potential improvement opportunity and takes action to start the change process. In addition, the submitter may indicate the potential training impact of the recommended change.

2.2.2. Major Outcomes:

2.2.2.1. Completed CSRD submitted and logged in the "Requirements Management" ISMT.

2.2.2.2. For a suspected training impact of the recommended change, the initiator will check Tab "C" of the CSRD. The submitter of a DR is not required to estimate an impact to training.

2.2.3. CSRD/DR Validation.

2.2.3.1. Purpose/Action: This activity allows system experts to determine if the suggested change is significant enough to be acted upon prior to the developer(s) designing a solution and estimating cost.

2.2.3.2. Major Outcomes: Approval or disapproval by the Integrated Requirements Review Board (IRRB) is annotated in the ISMT. Approval leads to the generation of BCR for the impacted systems identified in the CSRD.

2.2.4. Technical Interchange Meeting (TIM)/Joint Application Design (JAD) Sessions Conducted.

2.2.4.1. Purpose/Action: When more than one system might be affected in regards to a requirement, and the requirement and potential solution options cannot be detailed enough to complete the technical interchange between suppliers and requestors, a TIM/JAD will be conducted to bring together the various systems players to develop a single, agreed upon solution.

2.2.4.2. Major Outcome: A coordinated solution agreed upon by all affected systems.

2.2.5. System Program Management Office (PMO) Directs Software Developer to Propose Technical Solution/Rough Order of Magnitude (ROM).

2.2.5.1. Purpose/Action: Each PMO formally tasks their appropriate contractor or organic activity to officially propose their effort of the technical solution and ROM in response to each BCR. For a DR, this is the next step after DR Validation.

2.2.5.2. Major Outcome: Formal direction to each software contractor or organic activity to assess the system change(s) identified by a BCR/DR, and to propose software Technical solutions.

2.2.6. Software Developer Proposes Technical Solution/ROM

2.2.6.1. Purpose/Action: Software developer proposes a system change, including functionality and appearance impact, for each impacted system. Proposals must include how extensive the change will be (does the supplier solution drive a block change, minor code modification or something in between the two?). The extent of any training effort will be dependent on the extent of the software change. A minor change may only require pen and ink changes to the training material. A block change could generate the need for a major ISD driven courseware revision.

2.2.6.2. Major Outcomes:

2.2.6.2.1. Technical Solution/ROM, including anticipated impact on system functionality and/or appearance ("Training Impact"), in response to each BCR or DR to respective PMOs.

2.2.6.2.2. Updated ISMT record alerts HQ AFMC/A4PT to begin assessing the potential training impact (see **paragraph 1.11.2**).

2.2.7. CSRD or DR Approved and Prioritized.

2.2.7.1. Purpose/Action: Once all BCRs are completed, for a CSRD, the IRRB provides formal approval or disapproval and prioritization of the system change requirement. For a DR, the system FRB provides formal approval or disapproval and prioritization of the system change requirement.

2.2.7.2. Major Outcome: Formal government approval or disapproval of the change requirement CSRD together with any justification and prioritization information. Approval from the IRRB and/or FRB is authorization for the PMO to direct the software developer to enter full-scale development of the software solution.

2.2.8. BCR Drives Major or Minor Change of Appearance or Function?

2.2.8.1. Purpose/Action: During this activity, HQ AFMC systems and training personnel, together with the Lead Complex, determine if the approved software solution will result in a "Major" or "Minor" change to the impacted system in terms of training.

2.2.8.2. Major Outcomes:

2.2.8.2.1. If the approved software solution will result in a "Major" change of appearance or function, refer to the Assessment Phase of the Major Change Process (see **paragraph 3.1**):

2.2.8.2.1.1. Formal software validation and a Customer Acceptance Test (CAT) will be employed if systems change so requires prior to the production implementation.

2.2.8.2.1.2. An ISD developed basic courseware update is required.

2.2.8.2.1.2.1. An informal (non-ISD) transitional training or change management intervention is required.

2.2.8.2.1.3. If applicable, the PTE will be refreshed either immediately, annually, or agreed upon refresh date to incorporate the changes.

2.2.8.2.2. If the approved software solution will result in a "Minor" system change, refer to the Assessment Phase of the Minor Change Process (see **paragraph 6.1**):

2.2.8.2.2.1. Formal software validation and a CAT are employed prior to the production implementation.

2.2.8.2.2.2. An informal (non-ISD) transition training or change management intervention as required.

2.2.8.2.2.3. A basic courseware update is required.

2.2.8.2.2.4. If applicable, the PTE will be refreshed to incorporate the changes during the next annual or agreed upon refresh.

2.3. Training Response Process:

2.3.1. Training Impact Confirmed by Software Developer.

2.3.1.1. Purpose/Action: If the software developer confirms that the proposed change will result in altered system appearance or functionality that affects training, the "Training Impact" window in the Analysis Tab of the BCR or DR in ISMT will be updated to indicate "Yes." ("No" indicates no training impact. "Possibly" indicates that not enough information is known at this time to determine the impact.)

2.3.1.2. Major Outcome: Confirmation to HQ AFMC and Complex training personnel of the impending change in the appearance or functionality of a system.

2.3.2. HQ AFMC/A4PT Assessment of Training Impact.

2.3.2.1. Purpose/Action: Allows HQ AFMC/A4PT to begin monitoring the process, including ensuring the impending change is investigated and understood, Lead Complexes are notified, and potential funding sources are considered.

2.3.2.2. Major Outcomes:

2.3.2.2.1. Coordination of effort and responsibilities between HQ AFMC and Complexes training personnel.

2.3.2.2.2. Confirmation of ownership by Complexes.

2.3.2.2.3. Potential change and training impact incorporated into the monthly "Training Impact Report."

2.3.3. Begin ISD Planning Phase.

2.3.4. Provide Training Rough Order of Magnitude (TROM) to the PMO.

2.3.4.1. Purpose/Action: The Lead Complex provides a training impact estimate to the System Program Office and HQ AFMC/A4PT FA to be included in the Technical Solution Rough Order of Magnitude (TS/ROM). This ensures the IRRB has all cost and impact information necessary to make an educated decision on the requirement and solutions.

2.3.4.2. Major Outcome: TROM.

Chapter 3

MAJOR SYSTEM CHANGE: ASSESSMENT PHASE

3.1. Major System Change Assessment Overview:

3.1.1. Depending on the magnitude of the change as determined during the Awareness Phase, the process continues as either a Major System Change or a Minor System Change (see **paragraph 6.1**). Both types of change contain three sequential phases: Assessment, Development/Validation, and Delivery/Sustainment (See process flow chart in Attachment 3).

3.1.2. The Major System Change process is characterized by:

3.1.2.1. A major change in system functions and/or appearance.

3.1.2.2. An informal (non-ISD) transitional training or change management intervention.

3.1.2.3. An ISD developed basic course update.

3.1.2.4. A possible CAT.

3.1.2.5. Incorporation of the changes in an immediate or annual update of the appropriate Training Environment (TE).

3.1.3. During the Assessment Phase, the software developer begins developing the software solution. The Lead Complex ensures completion of the already begun ISD Planning Phase and then completes the ISD Analysis Phase. This will include continuation of the gap analysis between the existing courseware and the impact the new requirement may cause. A true determination as to the final impact on training may have to wait until the software developer's proposed fix is in hand.

3.2. System Change Process:

3.2.1. Develop Software Solution.

3.2.1.1. Purpose/Action: Software developer is directed by the PMO to develop a software solution to fulfill the requirements of the approved BCRs or DRs.

3.2.1.2. Major Outcome: Completed software solution as annotated in the ISMT.

3.3. Training Response Process:

3.3.1. Complete the ISD Planning Phase.

3.3.2. Conduct the ISD Analysis Phase.

Chapter 4

MAJOR SYSTEM CHANGE: DEVELOPMENT/VALIDATION PHASE

4.1. Major System Change Development/Validation Overview: During the Development/Validation Phase, the PMO software developer provides the technical solution; including training requirements information to the PMO and FA for approval. HQ AFMC/A4PT performs an initial assessment of the changes along with the Lead Complex. The Lead Complex provides the information to the Complexes in an ISMT derived "Training Impact Report" (see **paragraph 1.19**) for further analysis. Lead Complexes will then conduct the ISD Design and Development Phases, and begin the Implementation phase. If a CAT is to be performed, the Lead Complex may conduct a training tryout if the test environment can be made available.

4.2. System Change Process:

4.2.1. Provide Training Requirements Information.

4.2.1.1. Purpose/Action: The PMO or software developer provides functionality and appearance change information.

4.2.1.2. Major Outcome: Training requirements information (functionality/appearance) annotated/updated in the ISMT.

4.2.2. Approve System Changes.

4.2.2.1. Purpose/Action: Final Configuration Control Board (CCB) approval and scheduling of software changes.

4.2.2.2. Major Outcomes:

4.2.2.2.1. Annotated CCD Minutes.

4.2.2.2.2. ISMT updated to reflect changes.

4.2.3. Load Test Validation Environment.

4.2.3.1. Purpose/Action: Prepare for CAT, if one is planned.

4.2.3.2. Major Outcome: Test environment updated with changes.

4.2.4. Conduct CAT.

4.2.4.1. Purpose/Action: Field test software solutions.

4.2.4.2. Major Outcome: Software updated with changes in preparation for production implementation.

4.3. Training Response Process:

4.3.1. Assess Changes and Confirm Training Impact to Complexes.

4.3.1.1. Purpose/Action: HQ AFMC/A4PT ensures the Training Complex is aware of the initial and final estimation of the change's impact on function and/or appearance.

4.3.1.2. Major Outcomes:

4.3.1.2.1. ISMT updated to reflect training impact.

4.3.1.2.2. Lead Complex generate Training Impact Report.

4.3.1.2.3. CCB/CCD minutes are published.

4.3.2. Conduct ISD Design Phase.

4.3.3. Begin ISD Development Phase.

4.3.4. Conduct Training Tryout.

4.3.4.1. Purpose/Action: Although the "Final Small Group Tryout" is normally performed during the ISD Implementation Phase, conducting an initial tryout at the time of the CAT allows for pooling of subject matter and training expertise and resources. In this activity, the draft courses are validated by instructors and SMEs.

4.3.4.2. Major Outcomes:

4.3.4.2.1. Input from SMEs and trainers.

4.3.4.2.2. Documentation on necessary changes to materials.

4.3.5. Begin ISD Implementation Phase.

Chapter 5

MAJOR SYSTEM CHANGE: DELIVERY/SUSTAINMENT PHASE

5.1. Major System Change Delivery/Sustainment Overview: During this phase, the PMO and Defense Information Systems Agency (DISA) schedule and implement the system software revision. The PMO/DISA will then refresh the PTE where applicable with the updated applications and data on the annual refresh date, or immediately, if requested by HQ AFMC/A4PT. The Lead Complex completes the ISD Development and Implementation Phases including developing necessary transitional and basic courseware, and training instructors. Once the PTE is refreshed, the Lead Complex updates assigned courseware with the new data elements. The entire change process ends with a lessons learned session conducted by HQ AFMC/A4PT.

5.2. System Change Process:

5.2.1. PMO Schedules, Confirms, and Coordinates Implementation.

5.2.1.1. Purpose/Action: Through a series of PMO-hosted checklist meetings, HQ AFMC FAs, Program Office, DISA, and Complex systems personnel plan and coordinate the system revision implementation.

5.2.1.2. Major Outcomes: Completed implementation checklist.

5.2.2. DISA Implements System Revision per Schedule.

5.2.2.1. Purpose/Action: Upon completion of user Transitional Training and all preparatory actions by systems personnel, DISA is directed to implement the revised system.

5.2.2.2. Major Outcomes:

5.2.2.2.1. Users are prepared and adequately trained.

5.2.2.2.2. Revised operational system implemented.

5.2.3. PMO Conducts PTE Refresher Checklist Meetings.

5.2.3.1. Purpose/Action: Through a series of PMO-hosted checklist meetings, HQ AFMC FAs, Program Office, DISA, and Complex systems and training personnel plan and coordinate the upcoming refresh of the PTE. This periodic refresh is necessary to ensure the PTE maintains system applications that accurately reflect the production environment. Note: TAA training environment is not DISA controlled, but each site coordinates with IT system administrators to maintain the TAA database and applications. ABOM, NIMMS, and DIFMS training data is refreshed on an "as needed" basis. ABOM/NIMMS/DIFMS training environment is supported by both TSOIN and DISA.

5.2.3.2. Major Outcomes:

5.2.3.2.1. Instructors are prepared.

5.2.3.2.2. Stakeholders prepared to checkout refreshed PTE and modify courseware to accommodate updated applications and data.

5.2.4. DISA Refreshes the PTE.

5.2.4.1. Purpose/Action: Upon completion of user PMO, HQ AFMC, and user preparatory actions, DISA implements the refreshed PTE.

5.2.4.2. Major Outcome: Refreshed PTE with current production environment applications.

5.3. Training Response Process:

5.3.1. Lead Complex Conducts Train-the-Trainer (as necessary).

5.3.1.1. Purpose/Action: Allow instructor staff from all Complexes to use actual courseware to walk through the transition and basic courses.

5.3.1.2. Major Outcomes: Instructors from all Complexes are competent to deliver transition and basic courses.

5.3.2. Transition Training to Occur Before or After Production Implementation and PTE Refresh?

5.3.2.1. Purpose/Action: Complexes and HQ AFMC/A4PT determine the optimal way and timing to conduct the Transition Training: non-interactive (e.g. static slides or PTE navigational screens), or interactive (using the PTE).

5.3.2.2. Major Outcome: Recommended production implementation date provided to HQ AFMC/A4M and the PMO.

5.3.3. All Complexes Conduct Transition Training (as required).

5.3.3.1. Purpose/Action: If the transition training will be non-interactive (e.g. static slides or DPTE navigational screens) or interactive (e.g. DPTE Functional-Navigational) the user target audience attends transition training at this point.

5.3.3.2. Major Outcomes:

5.3.3.2.1. Competent users.

5.3.3.2.2. Notification to HQ AFMC/A4PT that user transition training is sufficiently completed to allow production implementation.

5.3.4. All Complexes Provide Updated Data Elements to Lead Complex.

5.3.4.1. Purpose/Action: The data provided in this step is needed by courseware developers to update the basic courseware, and to construct any anticipated interactive (e.g. DPTE Functional-Navigational) transition training courseware.

5.3.4.2. Major Outcome: Requested data provided to the Lead Complex.

5.3.5. Lead Complex Updates Courseware with New Data Elements.

5.3.5.1. Purpose/Action: The Lead Complex is responsible for sustaining the courseware for its assigned systems. Each Complex is responsible for ensuring their data elements are updated after a training environment refresh. Complexes shall provide data to the Lead Complex upon request.

5.3.5.2. Major Outcomes:

5.3.5.2.1. Updated basic courseware.

5.3.5.2.2. Updated transition courseware.

5.3.6. All Complexes Complete Instructional Systems Development Implementation Phase.

5.3.6.1. Purpose/Action: This phase allows courseware developers to continue the implementation phase work started earlier. In addition, the new user target audience attends basic training.

5.3.6.2. Major Outcomes:

5.3.6.2.1. Competent users.

5.3.6.2.2. Updated basic course added to the Logistics Training Library.

5.3.7. HQ AFMC/A4PT Conducts Post Training Evaluation and Lessons Learned.

5.3.7.1. Purpose/Action: Capture knowledge gained during the entire length of the Systems Requirement Assessment and Major System Change Processes.

5.3.7.2. Major Outcome: Improved processes.

Chapter 6

MINOR SYSTEM CHANGE: ASSESSMENT PHASE

6.1. Minor System Change Assessment Overview:

6.1.1. Depending on the magnitude of the change as determined during the Awareness Phase, the process continues as either a Major System Change (see **paragraph 3.1**) or a Minor System Change. Both types of change contain three sequential phases: Assessment, Development/Validation, and Delivery/Sustainment (see process flow chart in Attachment 4).

6.1.2. The Minor System Change process is characterized by:

6.1.2.1. A minor change in system functions and/or appearance.

6.1.2.2. A basic courseware update.

6.1.2.3. Incorporation of the changes in an annual PTE update.

6.2. System Change Process:

6.2.1. Develop Software Solution.

6.2.1.1. Purpose/Action: Software developer is directed by the PMO to develop a software solution to fulfill the requirements of the approved BCRs or DRs.

6.2.1.2. Major Outcome: Completed software solution annotated in the ISMT.

6.3. Training Response Process:

6.3.1. Requirement Analysis.

6.3.1.1. Purpose/Action: In coordination with HQ AFMC/A4PT, the Lead Complex conducts an analysis of the pending system changes to determine if any updates to the courseware are required.

6.3.1.2. Major Outcomes: Written notification to HQ AFMC/A4PT and to other Complexes of the determination.

Chapter 7

MINOR SYSTEM CHANGE: DEVELOPMENT/VALIDATION PHASE

7.1. Minor   System   Change   Development/Validation   Overview: During   the
Development/Validation Phase, the software developer provides the technical solution, including
training requirements information, to the PMO and FA for approval. HQ AFMC/A4PT performs
an initial assessment of the changes and provides the information to the Complexes in an ISMT
derived "Training Impact Report" (see **1.22**) for further analysis. The Lead Complex will then
update and deliver the applicable course materials to HQ AFMC/A4PT and the other Complexes.

7.2. System Change Process:

7.2.1. Provide Training Requirements Information.

7.2.1.1. Purpose/Action: The PMO or software developer provides functionality and
appearance change information.

7.2.1.2. Major Outcome: Training requirements information (functionality/appearance)
annotated/updated in the ISMT.

7.2.2. Approve System Changes.

7.2.2.1. Purpose/Action: Final CCB approval and scheduling of software changes.

7.2.2.2. Major Outcomes:

7.2.2.2.1. Annotated CCD minutes.

7.2.2.2.2. Updated ISMT.

7.3. Training Response Process:

7.3.1. Assess Changes and Confirm Training Impact to Complexes.

7.3.1.1. Purpose/Action: HQ AFMC/A4PT ensures the Lead Complex is aware of the
final estimation of the change's impact on function and/or appearance.

7.3.1.2. Major Outcomes:

7.3.1.2.1. ISMT updated to reflect training impact.

7.3.1.2.2. Lead Complex generates Training Impact Report.

7.3.1.2.3. CCB/CCD minutes published.

7.3.2. Track Changes in preparation for Annual PTE Update and to Support "Teach-
Around."

7.3.2.1. Purpose/Action: Tracking production environment system changes will
facilitate the basic course update efforts that will occur after the next annual PTE refresh.
Additionally, instructors can remain current on the production system configuration
differences that are not reflected in the current PTE and design methods to "teach
around" the differences.

7.3.2.2. Major Outcomes:

7.3.2.2.1. System configuration information to support the next basic course update.

7.3.2.2.2. Lesson plans annotated with production environment vs. PTE differences.

Chapter 8

MINOR SYSTEM CHANGE: DELIVERY/SUSTAINMENT PHASE

8.1. Minor System Change Delivery/Sustainment Overview: The PMO and DISA confirm, schedule, and implement the production system software revision and update the PTE on the annual refresh date, at which time the Lead Complex completes any necessary basic courseware updates.

8.2. System Change Process:

8.2.1. PMO Schedules, Confirms, and Coordinates Implementation.

8.2.1.1. Purpose/Action: Through a series of PMO-hosted checklist meetings, HQ AFMC FAs, Program Office, DISA, and Complex systems personnel plan and coordinate the system revision implementation.

8.2.1.2. Major Outcomes: Completed implementation checklist.

8.2.2. DISA Implements System Revision per Schedule.

8.2.2.1. Purpose/Action: DISA implements the revised system.

8.2.2.2. Major Outcome: Revised operational system implemented.

8.2.3. PMO Conducts PTE Refresher Checklist Meetings.

8.2.3.1. Purpose/Action: Through a series of PMO-hosted checklist meetings, HQ AFMC FAs, Program Office, DISA, and Complex systems and training personnel plan and coordinate the upcoming refresh of the PTE. This periodic refresh is necessary to ensure the PTE maintains system applications that accurately reflect the production environment. Note: TAA training environment is not DISA controlled, but each site coordinates with IT system administrators to maintain the TAA database and applications. ABOM, NIMMS, and DIFMS training data is refreshed on an "as needed" basis. ABOM/NIMMS/DIFMS training environment is supported by both TSOIN and DISA.

8.2.3.2. Major Outcomes:

8.2.3.2.1. Instructors are aware of changes and can teach differences until course is updated.

8.2.3.2.2. Stakeholders prepared to checkout refreshed PTE modify courseware to accommodate updated applications and data.

8.2.4. DISA Refreshes the PTE.

8.2.4.1. Purpose/Action: Upon completion of user PMO, HQ AFMC, and user preparatory actions, DISA implements the refreshed PTE (annual refresh).

8.2.4.2. Major Outcomes: Refreshed PTE with current production environment applications.

8.3. Training Response Process:

8.3.1. Lead Complex Completes Basic Course Update.

8.3.1.1. Purpose/Action: All Complexes provide updated data elements to lead complex (as required).

8.3.1.2. Major Outcome: Requested data provided to Lead Complex.

8.3.1.3. Purpose/Action: The Lead Complex updates provided data elements within the courseware (as required).

8.3.1.4. Major Outcome:

   8.3.1.4.1. Current course data elements.

8.3.1.5. Purpose/Action: The Lead Complex completes and distributes any necessary basic course updates.

8.3.1.6. Major Outcomes:

   8.3.1.6.1. Current courseware that reflects the latest system changes.

   8.3.1.6.2. Updated basic course coordinated and added to the Logistics Training Library.

8.3.2. HQ AFMC/A4PT Conducts Post-PTE Refresh Training Evaluation and Lessons Learned.

8.3.2.1. Purpose/Action: Capture knowledge gained during the entire length of the Systems Strategy Assessment, Minor Change, and PTE Refresh process.

8.3.2.2. Major Outcome: Improved process.

LISA P. SMITH, SES
Deputy Director, Directorate of Logistics

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 36-401, *Employee Training and Development*

AFI 36-2201, *Air Force Training Program*

AFI 36-2650, *Maintenance Training*

AFMAN 36-2234, *Instructional Systems Development*

AFPD 36-26, *Total Force Development*

Abbreviations and Acronyms

ABOM—Automated Bill of Materials

AFMC—Air Force Materiel Command

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

ALC—Air Logistics Complex

AMARG—Aerospace Maintenance and Regeneration Group

ANG—Air National Guard

BCR—Baseline Change Request

CAT—Customer Acceptance Test

CBT—Computer Based Training

CCB—Configuration Control Board

CCD—Configuration Control Directive

CMD—Courseware Management Database

CSRD—Communication and Information System Requirements Document

CTP—Civilian Training Plan

DFAS—Defense Finance and Accounting Service

DIFMS—Defense Industrial Financial Management System

DISA—Defense Information Systems Agency

DM—Depot Maintenance

DMSI—Depot Maintenance Systems Integration

DMAPS—Depot Maintenance Accounting & Production System

**DPTE**—Depot Permanent Training Environment

DR—Deficiency Report

DSD—Data System Designator

ELSG—Electronic Support GroupF

FA—Functional Advocate

FRB—Functional Review Board

HQ—Headquarters

IAW—In Accordance With

IRRB—Integrated Requirements Review Board

ISD—Instructional Systems Development

ISMT—Information Systems Management Tool

IT—Information Technology

JAD—Joint Application Design

LC—Lead Complex

LTL—Logistics Training Library

NIMMS—NAVAIR Industrial Financial Management System

OPR—Office of Primary Responsibility

OST—Operations Support Team

POC—Point of Contact

PMO—Program Management Office

PTE—Permanent Training Environment

RDTM—Requirements Document Tracking Module

SME—Subject Matter Expert

TAA—Time and Attendance System

TIM—Technical Interchange Meeting

TROM—Training Rough Order of Magnitude

TSOIN—Technical Support Services-Indianapolis

TS/ROM—Technical Solution Rough Order of Magnitude

Attachment 2

PROCESS FLOW CHART: SYSTEM CHANGE AWARENESS PHASE
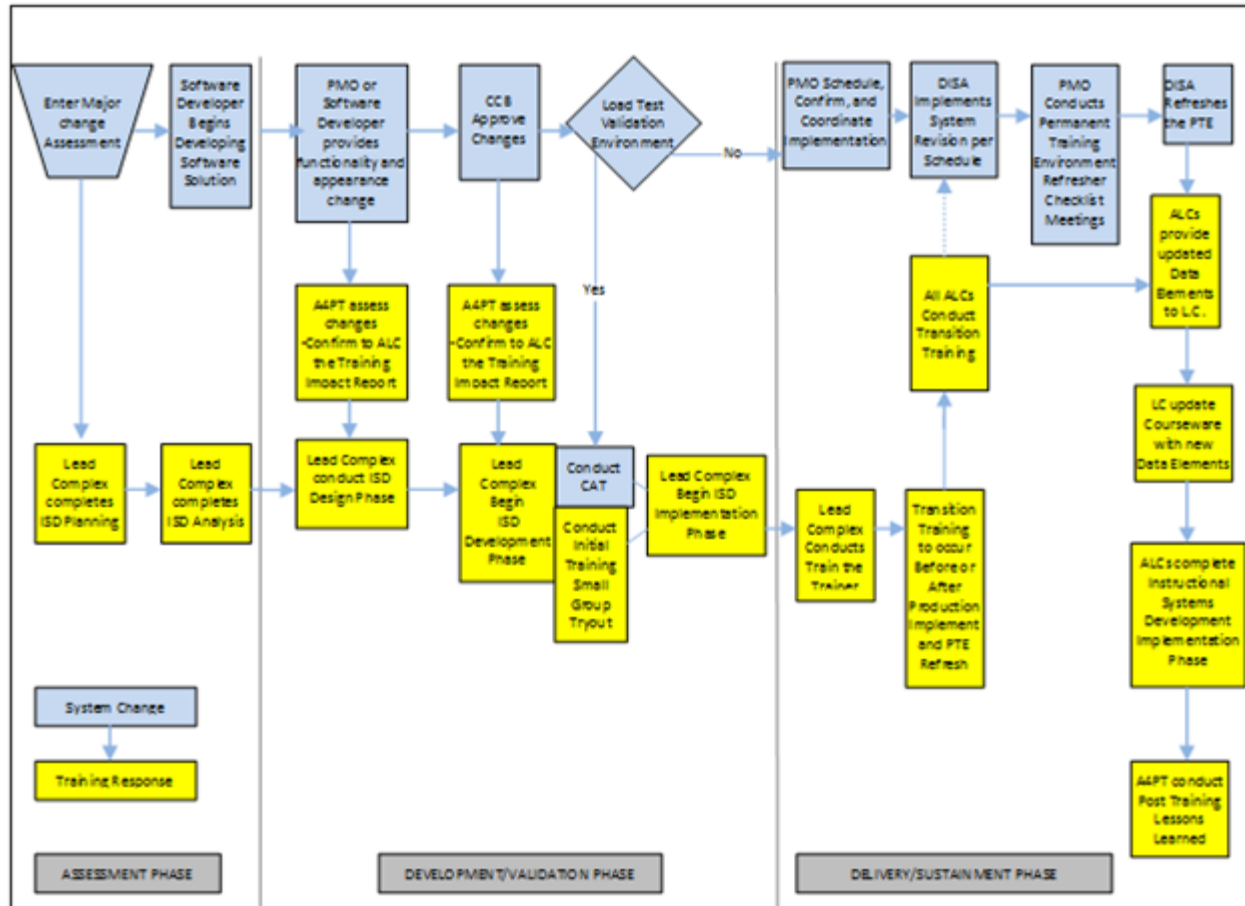
Figure A2.1. Process Flow Chart System Change Awareness Phase.
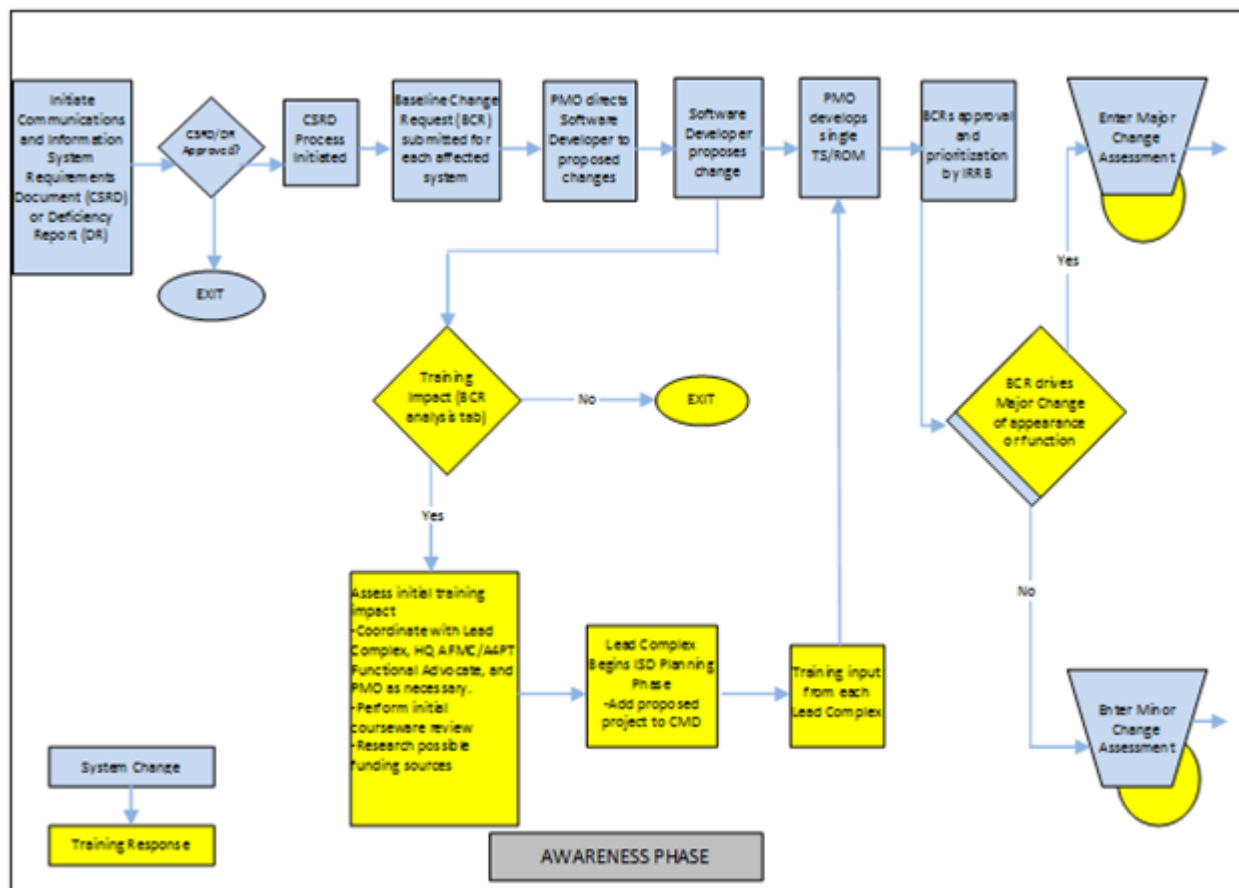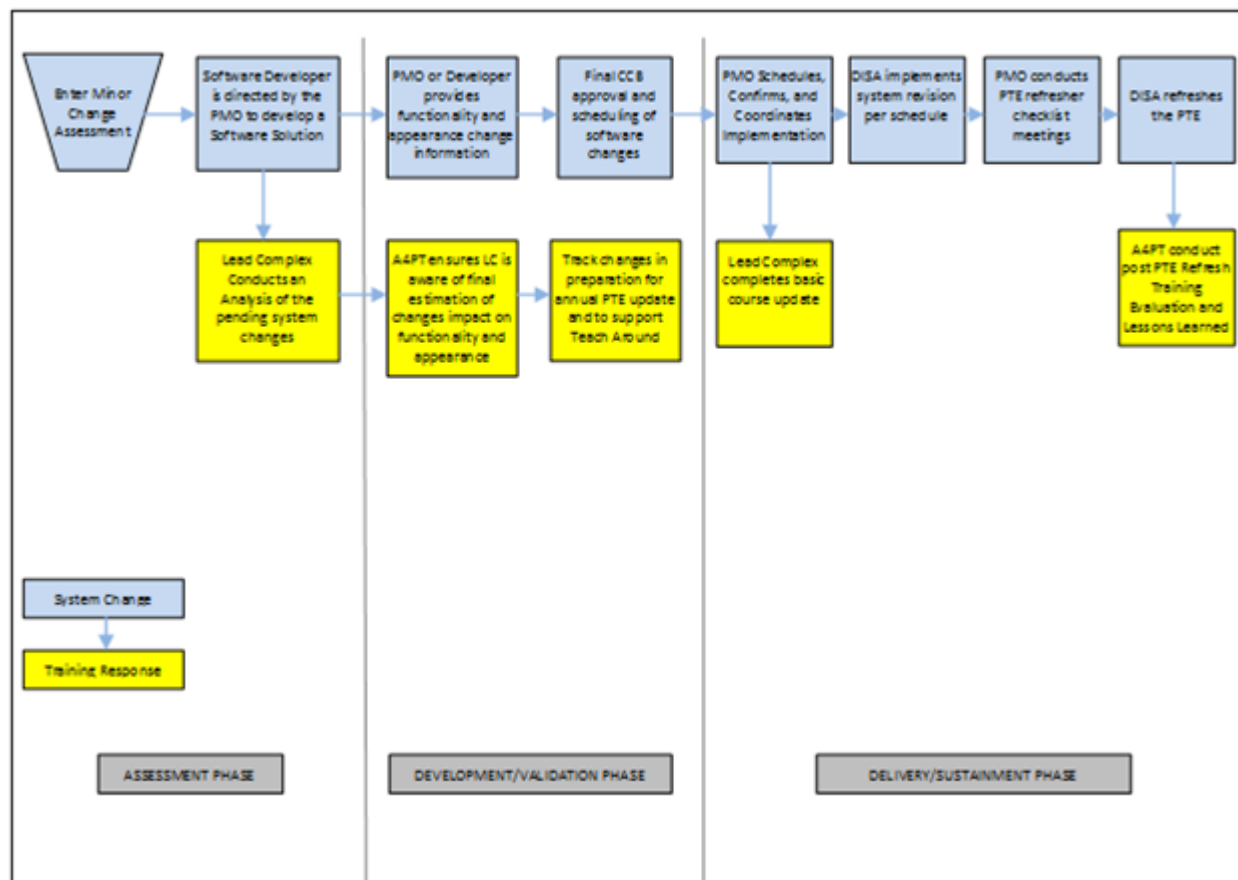
Attachment 3

PROCESS FLOW CHART: MAJOR SYSTEM CHANGE

Figure A3.1. Process Flow Chart Major System Change.

Attachment 4

PROCESS FLOW CHART: MINOR SYSTEM CHANGE

Figure A4.1. Process Flow Chart Minor System Change.

Attachment 5

COMMAND STANDARD DEPOT MAINTENANCE SYSTEMS

Table A5.1. Command Standard Depot Maintenance Systems.

DSD	ACRONYM	NAME
DMAPS		**DEPOT MAINTENANCE ACCOUNTING AND PRODUCTION SYSTEM**
ABOM	ABOM	Automated Bill of Materials
DIFMS	DIFMS	Defense Industrial Financial Management System
NIMMS	NIMMS	NAVAIR Industrial Material Management System
TAA	TAA	Time and Attendance System
DMAPS-IE	DMAPS-IE	Integration Engine
DMLS		**DEPOT MAINTENANCE LEGACY SYSTEMS**
A030D	AMREP	Aircraft Maintenance Production Compression System
CCDP-MX	CCDP-MX	Civilian Career Development Program-Maintenance
CONCERTO	CONCERTO	CONCERTO
D130	FEM	Facilities and Equipment Maintenance
D230	MPS	Materiel Processing System
G004C	DMWPCS	Depot Maintenance Workload Planning and Control System
G019C	MISTR	MISTR Requirements Scheduling and Analysis System
HMMS	HMMS	Hazardous Materials Management System
IMACS	IMACS	Interservice Materiel and Accounting System
MP&E	MP&E	Maintenance Planning and Execution System
TSS	TSS	Training Scheduling System
QIMSS	QIMSS	Quality Information Management Standard System
DSOR	DSOR	Depot Source of Repair
RAMPMAP	RAMPMAP	RAMPMAP
DMSI		**DEPOT MAINTENANCE SYSTEM INTEGRATION**
E046B	ALSDS	AFMC Labor Standard Data System
G004L	JOPMS	Job Order Production Master System

G005M	DMMSS	Depot Maintenance Materiel Support System
G097	PDMSS	Programmed Depot Maintenance Scheduling System
G337	ITS	Inventory Tracking System
G402A	EPS	Exchangeables Production System
Q302/SSDA	DMCODB	Depot Maintenance Consolidated Operational Database

Attachment 6

LEAD COMPLEXES BY SYSTEM

Table A6.1. Lead Complexes by Systems.

LEAD TRAINING COMPLEX	DSD	ACRONYM
DEPOT MAINTENANCE ACCOUNTING AND PRODUCTION SYSTEM	**DMAPS**	
OO-ALC	ABOM	ABOM
OO-ALC	DIFMS	DIFMS
OO-ALC	NIMMS	NIMMS
OO-ALC	TAA	TAA
OO-ALC	DMAPS-IE	DMAPS-IE
DEPOT MAINTENANCE LEGACY SYSTEMS	**DMLS**	
WR-ALC	A030D	AMREP
OO-ALC	CCDP-MX	CCDP-MX
WR-ALC	CONCERTO	CONCERTO
WR-ALC	D130	FEM
OO-ALC	D230	MPS
OO-ALC	G004C	DMWPCS
OO-ALC	G019C	MISTR
OO-ALC	HMMS	HMMS
OO-ALC	IMACS	IMACS
WR-ALC	MP&E	MP&E
OC-ALC	TSS	TSS
WR-ALC	QIMSS	QIMSS
No Lead Complex Assigned	DSOR	DSOR
No Lead Complex Assigned	RAMPMAP	RAMPMAP
DEPOT MAINTENANCE SYSTEM INTEGRATION	**DMSI**	
WR-ALC	E046B	ALSDS
OC-ALC	G004L	JOPMS

WR-ALC	G005M	DMMSS
WR-ALC	G097	PDMSS
OC-ALC	G337	ITS
OC-ALC	G402A	EPS